**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Structure and role of relational databases, p 97**

1. What is a flat file database?

Stores data in tables consisting of rows and columns. Each column contains a field with a specific piece of information and each row in a table holds a record.

1. Define each of the following terms:
   1. Primary key – uniquely identifies each record in a database table.
   2. Field – a specific set of information that is recorded in the column of a table.
   3. Record - a set of information about one entity.
   4. Form – allows an input screen to be formatted and linked to an underlying table or query.
   5. Query – When you need to filter a set of data, you use a query. The result of a query is usually turned into usable information by putting it into a report.
   6. Report – formats the query data and allows you to add summary statistics, such as totals, as well as heading, to make the information easier to read and understand.
   7. Macros – will carry out a set of predetermined tasks (e.g. print a report).

**Data types and formats**

1. List the following **data types** and characteristics of each with examples.
   1. Text, (string) String data types include a series of symbols or values, such as a character string (a sequence of characters) or a binary string ( a sequence of binary values – Alphanumeric, upto 255 characters; it is searchable, eg. Name, address postcode, telephone number.
   2. Numeric – numbers only, eg. Any number that will be used in a calculation
   3. Currency – Numbers, but in dollar amount: formatted with a $ symbol and .00 as a default, eg. Any number used to represent a financial value; usually only applied to a total, rather than values in a list\.
   4. Date/time – A variation of numbers, but formatted to represent a date and/or time, eg. Any data; can be used in calculations.
   5. Boolean – Represents one of two states – true/false, eg. Also represented as a yes/no and on/off.
   6. Object - Images, audio, video or similar, eg. ,media or other documents
   7. Memo- Like text, but unlimited; it is not searchable, eg. Any long selections of text.
2. **Data Formats:**

Elaborate on the following common data formats:

* 1. Text – Once the data type for a field has been decided, the designer has to determine how much space will be allocated to that field in each record. It is important to choose a format based on the size or type of data that a field will hold.
  2. fixed decimal places – certain numeric values, such as dollars and cents or when rounding occurs, need to be formatted with a fixed number of decimal places. These decimal places will appear even for whole numbers, e.g. 5.00
  3. Date – can be made to display in different ways, e.g. 23/03/11 or 23-Mar-11 (preferred)
  4. Date/time – 12 or 24 hour clock (date/time) – a variation of date where you can show time to minutes and seconds if necessary. In a 12-hour clock, hours start at 12:00 and go to 11:59 and a.m. and p.m. are used to indicate the part of the day. In 24-hour time, hours start at 00:00 and go to 23:59 rather than 11:59 p.m.
  5. Dollar, currency- $ symbol is displayed; it defaults to .00 after the value.
  6. True/false, Boolean logic – can be displayed as word (such as Yes/No, True/False) or as check or tick boxes to make data entry easier.